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| 10/749,237 | 12/30/2003 | Jeong-Hoon Kim | 11038-133-999 | 8368 |

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EXAMINER

NGUYEN, XUAN LAN T

| ART UNIT | PAPER NUMBER |
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3683

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/749,237 | Applicant(s) KIM, JEONG-HOON | |
| | Examiner Lan Nguyen | Art Unit 3683 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment to the specification submitted 5/23/05 has been approved.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- It is noted that in the Response filed 5/23/05, Applicant specifically requested for the claim limitation "variable stiffness means for varying the stiffness of the two cushion block parts" to be treated under 112, sixth paragraph. Per Applicant's request, the structure of the variable stiffness means as disclosed in page 3 of specification, paragraph [0012], have been considered to be the claimed limitation. As a result, claims 2 and 3 are repeating the exact claimed limitation of the variable stiffness means as described in the specification. Claims 2 and 3 are redundant and should be deleted.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita et al. in view of Tabata.

Re: claims 1-4, Kurita et al. show a vehicle mount apparatus in figure 1 having an asymmetrical variable stiffness, as in the present invention, the apparatus comprising: a cushion member having two cushion block parts 36a, 36b, see figure 3, each symmetrically arranged about a vertical line, axis Z, and positioned in the fore and aft direction relative to a vehicle body 30; vehicle body brackets 38, 1a each secured at the vehicle body, as shown in figure 2; assembly body brackets 1b, as shown in figure 1; sensing means 40 for detecting the changes of accelerated velocity of a vehicle (i.e. accelerated velocity sensor); and a controller 100 in figure 4 for receiving a signal from the sensing means to control the stiffness of the cushion block parts, as shown in figures 4-9. Note that figure 6, especially, shows the situation where the bed 1b would be pitching causing the controller 100 to vary the stiffness in block 36a (fore) and block 36b (aft) asymmetrically in order to damp the pitching vibration due to accelerations detected by sensors 40. Kurita's vehicle mount further shows amplifier 52i, but lacks the ER fluid and electrode plate in each cushion block part. Tabata teaches an adjustable engine mount 100 wherein said mount comprises ER fluid 105 and electrode

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plate 106 to vary the stiffness of ER fluid 105 as an excellent damper for a wide range of vibration amplitudes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus with a cushion block such as taught by Tabata wherein said block comprises ER fluid and electrode plate; since Tabata's cushion block is well-known for its excellent damping capability in a wide range of vibration amplitudes. The Examiner takes an Official Notice that engine mount using MR fluid with electromagnets and ER fluid with electrode plates are art equivalents and would have been obvious for one of ordinary skill in the art at the time of the invention to have selected either one of the two for their well known use in the art of dampening. Note also that Kurita's mount assembly provides the structure for inclined mounting as claimed. As modified, Tabata's cushion blocks would be mounted in an incline as provided by Kurita's body brackets 38 and assembly body brackets 1b as claimed.

Re: claims 5 and 6, Kurita's apparatus, as rejected in claim 1, lacks the sensing means to be a speed sensor and an engine revolution sensor. Tabata teaches a variety of sensors S6, S7 in order to detect different vibration frequencies to better damp the vibration. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus to have included a speed sensor and an engine revolution sensor as taught by Tabata in order to detect different vibration frequencies to better damp the vibration which in turn would provide a much smoother ride.

Re: claim 16, Kurita shows in figure 6, the situation where the bed 1b would be pitching causing the controller 100 to vary the stiffness in block 36a (fore) and block 36b (aft) asymmetrically in order to damp the pitching vibration due to accelerations detected by sensors 40.

Re: claims 17-19, Kurita et al. show a vehicle mount apparatus, as in the present invention, having an asymmetrical variable stiffness, the apparatus comprising: a cushion member having two cushion block parts 36a, 36b in figure 3, each symmetrically arranged at an incline about a vertical line, axis z, and positioned in the fore and aft direction relative to a vehicle body; vehicle body brackets 38, said vehicle body brackets being configured and dimensioned for securing to the vehicle body; an assembly body bracket 1a, comprises a plurality of assembly body brackets 1a, opposite the vehicle body brackets 38, said assembly body bracket configured and dimensioned to receive an assembly body; a sensor 40 configured to output a signal in response to acceleration changes of the vehicle; and a controller 100 communicating with the sensor to asymmetrically varying the stiffness of the two cushion blocks in response the signal output by said sensor, as shown in figure 6, where the bed 1b would be pitching causing the controller 100 to vary the stiffness in block 36a (fore) and block 36b (aft) asymmetrically in order to damp the pitching vibration due to accelerations detected by sensors 40. Kurita's vehicle mount lacks the variable stiffness means disposed in part within said cushion blocks. Tabata teaches an adjustable engine mount 100 wherein said mount comprises ER fluid 105 disposed within cushion block 100 and electrode plate 106 to vary the stiffness of ER fluid 105 as an excellent damper for a wide range

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of vibration amplitudes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus with a cushion block such as taught by Tabata wherein said block comprises ER fluid disposed within said block and an electrode plate; since Tabata's cushion block is well-known for its excellent damping capability in a wide range of vibration amplitudes. Note also that Kurita's mount assembly provides the structure for inclined mounting as claimed. As modified, Tabata's cushion blocks would be mounted in an incline as provided by Kurita's body brackets 38 and assembly body brackets 1b as claimed.

Re: claim 20, the Examiner takes an Official Notice that engine mount using MR fluid with electromagnets and ER fluid with electrode plates are art equivalents and would have been obvious for one of ordinary skill in the art at the time of the invention to have selected either one of the two for their well known use in the art of dampening.

Re: claims 21 and 22, Kurita's apparatus, as rejected in claim 1, lacks the sensing means to be a speed sensor and an engine revolution sensor. Tabata teaches a variety of sensors S6, S7 in order to detect different vibration frequencies to better damp the vibration. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Kurita's apparatus to have included a speed sensor and an engine revolution sensor as taught by Tabata in order to detect different vibration frequencies to better damp the vibration which in turn would provide a much smoother ride.

Response to Arguments

6. Applicant's Response filed 5/23/05 has been considered. Per Applicant's request to treat the claimed limitation "variable stiffness means for varying the stiffness of the two cushion block parts" under 112, sixth paragraph, the structure of the variable stiffness means as disclosed in page 3 of specification, paragraph [0012], have been considered to be the claimed limitation. The rejection to claim 1 has been changed to meet the new limitation.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is (571) 272-7121. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Nguyen
Primary Examiner
Art Unit 3683



8/2/05